

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

Feb. 9, 1864.—John Gould, Esq., F.R.S., in the Chair.

ON A NEW SPECIES OF MEGAPODE. BY G. R. GRAY.

I have had placed in my hands a specimen of a bird (preserved in spirits) from the Island of Nina Fou*, which, on examination, has proved to be a new species of the remarkable genus *Megapodius*. The specific characters are as follows:—

MEGAPODIUS PRITCHARDII.

Young female. Slaty black †, with the base of most of the feathers white; wings (imperfect, the quills having been mostly cut away) with the first quill fuscous black; the rest are apparently white, probably fuscous black at their tips; upper tail-coverts white; tail fuscous black; abdomen pale fuscous black or slaty; cheeks and upper part of the neck vermilion-red, slightly feathered with small scattered black plumes; bill bright yellow; tarsi and toes pale yellow; claws blackish lead-colour.

Length, from tip of bill to end of tail, 12 or 13 inches.

The specimen from which the description was taken was obtained by Mr. W. T. Pritchard at Nina Fou, which island is situated about halfway between the Feejee Islands and the Samoan Islands, and is far removed to the northward of the Friendly or Tonga Islands, yet it is considered to form part of this latter group. This somewhat isolated island is said to be of small size, of volcanic origin, and peculiarly liable to eruptions and earthquakes. The natives informed him that the bird “laid 200 eggs, and piled them one above another in the shape of a pyramid, the last egg forming the apex.” This statement Mr. Pritchard “hesitated to believe; but the natives reiterated it.” The bird lives in the bush, runs very fast, and does not fly any distance at a time.

It so happens that the Nina Fou bird was lately recorded in the ‘Proceedings of the Zoological Society’ (1862, p. 247), from information obtained by Mr. Bennett of Capt. McLeod, who stated that the bird was known to the natives by the name of “Mallow;” and it lives in the scrubs in the centre of the island, about the margin of a large lagoon of brackish water, which has the appearance of having been an extinct crater; the birds lay their eggs on one side only of the lagoon, where the soil is composed of a sulphur-looking sand; the eggs are deposited from 1 to 2 feet beneath the surface.

This latter account is in accordance with the known habits of several of the species of this genus, and Mr. Pritchard was right in doubting the correctness of the marvellous and most improbable story related to him by the natives. It is only by the permission of the king or chief that the eggs or birds can be procured, which is also the case in other localities.

* Onooafow, or Proby Island, or Hope Island, or Good Hope Island.

† Mr. Bennett says, “of an uniform blackish-brown colour.” While Mr. Pritchard remarks it to be “of a brownish blue.”

The natives of the Tonga Islands informed Mr. Pritchard that the bird was "not found on any of their islands, except Nina Fou." There is, however, in the British Museum an egg, with the provisional name of *Megapodius Burnabyi*, which agrees with the description of the Nina Fou egg. It was obtained by Lieut. Burnaby, R.N., at the Hapace Islands, which is the centre cluster of the three groups usually considered to form the Friendly or Tonga Islands. The bird of the Hapace Islands may, when made known, prove to be a species closely allied to the *Megapodius Pritchardii*, if not the same.

ON A NEW SPECIES OF PRIONOPS. BY G. R. GRAY.

I beg to lay before the Meeting the description of a new species of *Prionops*, which has been obtained during the Zambesi expedition.

PRIONOPS TRICOLOR.

Black; back, rump, wing-coverts, and tertials purplish grey; quills fuscous black, from the second to the tenth quills crossed interiorly with a white oblique band; vent, under tail-coverts, and tips of the tail-feathers white; on the latter the white decreases in width from the outer to the central feathers, where it exhibits only a small spot on each feather.

The frontal plumes covering the nostrils are short, turned upwards, and slightly curved backwards in front of the eyes, like those of the *Prionops Talacoma*, which latter species, with the new one, were sent in the first series of birds as from Tette.

The eyes are surrounded by serrated fleshy rings. The bill and feet red; the former is tipped with yellow.

Length 7" 6"; wings 5".

This new species is allied to *Prionops Retzii*, but it is without the white rump, and the tips of the tail-feathers are white on both webs.

DESCRIPTION OF A NEW SPECIES OF GULL FROM TIBET.

BY J. GOULD, ESQ., F.R.S., ETC.

CHROICOCEPHALUS TIBETANUS, Gould.

Head light chocolate-brown, deepening into black on the nape, sides of the head, and fore part of the neck; back and wings delicate grey; shoulders and edge of the wing pure white; first two primaries black, with an oblong patch of white occupying the basal portion of the outer web and the corresponding portion of the inner web for about half its breadth, and with an oval patch of white near the tip; the remaining quills white, largely tipped and broadly margined along the inner web with black; remainder of the plumage, comprising the neck, under surface, upper and under tail-coverts, pure white; bill, legs, and feet coral-red; nails black.

Total length 16 inches, bill 2 inches, wing 12½ inches, tail 5 inches, tarsi 2½ inches.

Hab. Tibet.

Remark. This fine and very distinct species belongs to that section of the *Laridæ* which comprises the well-known Black-headed Gull,

C. ridibundus, but cannot be confounded with that or any other species, the broad black mark in the centre of its first two primaries, together with its larger size, serving at once to distinguish it. It was brought from Tibet by Major W. E. Hay, F.Z.S.

NOTES ON SOME NEW LIZARDS FROM SOUTH-EASTERN AFRICA,
WITH THE DESCRIPTIONS OF SEVERAL NEW SPECIES. BY
DR. J. E. GRAY, F.R.S., ETC.

Dr. John Kirk has most kindly sent to the British Museum a series of Lizards, Snakes, Insects, and other animals collected during the Zambesi expedition, under H. M. Consul the Rev. Dr. Livingstone. As the series of Lizards contains some species which do not appear to have been previously inserted in the 'Systematic Catalogue,' I forward an account of them to the Society.

GERRHOSAURUS ROBUSTUS, Peters, Monatsb. 1854, p. 618.

Hab. Tette (*Peters*; *Dr. Kirk*).

Dr. Peters gives the word *Caaiia* as the name of this Lizard; but, Dr. Kirk informs me, that word simply means "I do not know," which was probably what the native said when he asked him what they called it.

Common near Tette. The native told Dr Kirk that it entered fowl-houses and killed the fowls, and that it bit very hard.

This species agrees in general appearance with the Lizard figured in Dr. Andrew Smith's 'Illustrations of the Zoology of South Africa,' under the name of *Gerrhosaurus Bibronii*; but the head of the Tette specimen is dark brown like the body, and is spotted with white; while in Dr. Smith's species the head is figured as uniform reddish-brown.

TEIRA ORNATA, n. s.

Blackish brown above (in spirits), with three narrow continuous streaks from the occiput to the base of the tail; head with small symmetrically curved white lines; sides of the head and body with numerous erect, more or less sinuous, white cross bands; chin and beneath white; tail pale reddish brown; ventral shields six-rowed; the throat with a slight fold of a single series of rather larger flat scales; under the ears, scales small, granular, smooth; of the tail elongate, keeled.

Hab. South-Eastern Africa (*Dr. Kirk*).

LYGODACTYLUS, n. g.

Toes free, all clawed, slender, and subcylindrical, with a series of small scales beneath at the base rather dilated ovate, and with two series of regular transverse plates, separated by a central groove beneath, at the end; the thumb (of the hind foot, at least) large. Head, body, and tail covered with uniform granular scales. Tail cylindrical, tapering; front of the vent granular. Labial shields large, similar in form, smaller behind, with a large shield in front of the chin.

This genus agrees with *Thecadactylus* in the form of the plate

beneath the toes ; but the toes are freer, and the bases of the toes are slender and subcylindrical. It differs from *Ædura* and *Strophura* in the plates under the toes being of a uniform size, and closely imbricate.

LYGODACTYLUS STRIGATUS, sp. nov.

Grey brown (in spirits) above ; crown vermiculated and marbled with black ; chin and beneath white, with a black streak commencing from the nostril and continued, enclosing the eye, on the side of the neck and front of the body ; tail pale brown ; scales on the back very minute, of the crown rather larger ; upper labial shields narrow ; the lower labial shields 7.7, the four in front of each side larger, becoming gradually smaller ; chin-shield six-sided, with two or three smaller shields on each side behind it.

Hab. South-Eastern Africa (*Dr. Kirk*).

Body and head $1\frac{1}{2}$ inch long ; tail 1 inch.

HOMODACTYLUS, n. g.

The toes free, broad, depressed, rather broader and rounded at the ends ; thumb broad like the toes ; all granular at the base, and with a single series of broad transverse plates beneath the dilated end, and without any free compressed terminal joints or claws. Back with large tubercles. Tail with rings of large tubercular scales. No pre-nal or femoral pores.

This genus is like *Phelsuma* in the form of the toes ; but the thumb is dilated at the end like the toes ; the back is tubercular, and the tail ringed and tubercular.

In the latter character it resembles *Tarentola*, which has the same habit of living in houses ; but it has no compressed joints on the middle toes of the hands and feet.

HOMODACTYLUS TURNERI, sp. nov.

Pale brown ; head blackish, tubercular ; back with sixteen longitudinal series of large, oblong, more or less keeled, black-brown tubercles, with a central series of much smaller similar tubercles down the vertebral line. The outer side of the limbs with similar tubercles, which are largest on the outer side of the fore legs and hinder side of the thighs and hind legs. Tail with rather distant rings of similar, but rather more acute tubercles, which make six longitudinal series on the base of the tail ; underside pale brown, with smooth subequal scales ; chin with three band-like shields in front.

Hab. South-Eastern Africa (*Dr. Kirk*). In the houses.

Var. or junior ?

Pale brown, with the tubercles paler and with some opaque-white tubercles intermixed. Head with four longitudinal brown streaks up the face to the forehead ; a brown streak on the upper margin of the temple, five unequal, rather irregular, dark bands across the back, and some more obscure paler bands across the tail. The toes appear scarcely so much dilated ; but in other respects they are like the two larger dark specimens.

I have named this species in honour of J. Aspinall Turner, Esq.,

M.P., who has done so much to make known the zoology of Western Africa, and formed such a fine collection of insects, especially of *Coleoptera*.

M. Auguste Duméril, in the 'Revue et Mag. de Zoologie' for 1851, describes and figures a Nocturnal Lizard, which had been received from Senegal, under the name of *Stenodactylus caudicinctus* (p. 478, t. 13).

M. A. Duméril observes that the slender-toed Geckotians are easily divided into two genera,—the *Gymnodactyles* having slender toes, which are smooth on the edge and with small central plates beneath; while the *Stenodactyles* have each side of the toes fringed with small teeth, and the lower surface granular.

I cannot consider this an accurate account of the typical *Stenodactyles*, or, at least, of the toes of the long-known species on which the genus *Stenodactylus* of Cuvier was established; for in that animal, as is well shown in Savigny's figure in the large work on Egypt, the underside of the toes is furnished with a series of plates as in the *Gymnodactyles*, but instead of the plate being entire on the edge, as in *Gymnodactylus*, it is deeply dentated on the outer margin, which caused me, in my 'Catalogue of Lizards in the British Museum,' to form a tribe for it in the family *Geckotidæ*, under the name *Stenodactylina*, which is thus characterized:—

“E. Toes cylindrical, tapering, toothed on the sides, lower surface with denticulated cross plates” (l. c. p. 177).

The Lizard from Senegal, which M. A. Duméril has referred to this genus, does not agree with this character. It, indeed, has the under surface of its cylindrical tapering toes covered with small acute scales, like the soles of its feet; and therefore I think that it must be formed into a distinct genus, which will form an anomalous group among the Night Lizards, or *Geckotidæ*, characterized by this peculiarity in the toes.

The Senegal Lizard cannot be properly referred to the genus *Stenodactylus* for another reason: the true *Stenodactyli* have the external appearance of the *Agamæ*, so much so that Geoffroy, on Savigny's plate, calls it *L'Agame ponctué*; and M. Audouin, in his 'Explanation of Savigny's Plates,' referred it to the genus *Trapelus*, under the name of *T. Savignii*; while the Senegal Lizard is a typical Gecko in all outward characters except the toes, so much so that when it was first seen it was thought to be an *Eublepharis*, erroneously said to come from Africa.

I propose to call this genus

PSILODACTYLUS, g. n.

Toes short, subcylindrical, tapering, covered with flat scales above, and, like the palms, with small rough granules beneath; thumb like toes, but shorter; all clawed. Tail cylindrical, covered with flat scales, annularly plaited, with a series of larger scales on the edge of the folds; beneath covered with subequal, flat, square scales. Pre-anal pores in a short angular line. Head depressed, covered with polygonal shields; labial shields low, broad; upper and lower rostral

shields large, similar. Edge of the eyelids reflexed, expanded; pupil large. Back with series of granular tubercles, those on the side formed of three subequal, larger scales. Chin, throat, and belly with smooth polygonal scales.

This genus is very similar to *Eublepharis* (*Hardwickii*) in external appearance and distribution of colour, but differs in the toes being very much shorter, thicker, and cylindrical and tapering, in the ends not being compressed and arched, but thick and cylindrical like the bases, and in the under surface of the toes being covered with small rough granules, like the under surface of the palms or soles of the feet. It differs also in the tubercles of the back being formed of groups of three scales; the central scales or tubercles on the middle of the back are larger than those on each side of it, but on the sides of the back the three scales are of nearly equal size.

In *Eublepharis* the toes are compressed at the end, and have a broad band-like scale beneath, and the tubercles of the back and sides are all formed of a single large scale.

PSILODACTYLUS CAUDICINCTUS.

Stenodactylus caudicinctus, A. Duméril, l. c.

In spirits, pale whitish; upper part of the head brown, edged with a black horseshoe-shaped band behind; cheek and side of the throat black, varied; back with two very broad irregular-edged black cross bands; tail dark, ringed.

Hab. W. Africa; Old Calabar?

EUPREPIS GULARIS, sp. nov.

Pale bronze-green brown (in spirit), with five narrow whitish streaks from the occiput continued on the base of the tail; crown of the head uniform brown; the central dorsal streak with a narrow black edge on each side, the two lateral streaks scarcely dark-edged, the upper one arising from the back edge of the eye, and the lower from the pale scales on the upper lip; the throat, the sides of the face, and neck dark brown, white-speckled. The front edge of the ears with a few very small thin scales.

Hab. South-Eastern Africa.

In the 'Catalogue of Lizards in the British Museum,' I regarded these specimens from South Africa as varieties of the *Euprepis quinquefasciatus* from Western Africa; but on reexamining these specimens with other specimens received since, and with the specimens brought home by Dr. Kirk, I am convinced that they are distinct.

EUPREPIS KIRKII, sp. nov.

Black-brown; back with three uniform well-marked yellow streaks, the middle one from the end of the nose to the base of the tail, the lateral ones from the eyebrows and continued on the side of the base of the tail, and tail-end blue. There is a streak like the others, but less distinct, on each side of the body, arising from the lips, continued across the ear-hole, and obscurely continued on the side of the base of the tail. The chin and underside of the body and base of the tail whitish; scales with three distinct keels; two series of scales between

each pale streak ; the ear-holes oblong, erect, open, with three very small indistinct prominences on the front edge, which are placed at unequal distances from each other.

Hab. Tette (*Dr. Kirk*).

This species resembles in external appearance the Blue-tailed Skink of North America ; but the central dorsal streak is not forked over the head. It is very like the *E. quinquefasciatus* of Western Africa ; but the dorsal streaks are not black-edged, and the central one is continued to the end of the nose. This is not the case in the latter species, which agrees with *E. Kirkii* in having only two series of scales between each white streak.

Named in honour of Dr. Kirk, its discoverer.

EUPREPIS GRANTII, sp. nov.

Pale bronzed brown, with a broad pale whitish streak on each side of the back, continued from the eyebrows to the lower part of the tail. Sides of the head and neck with a broad blackish streak, enclosing the eye and over the ears. The upper lip and slender streak under the eye opaque white. Scales three-keeled.

Hab. South-Eastern Africa (*Dr. Kirk*).

CHAMÆLEO DILEPIS, Gray, Cat. Lizards B.M. 266.

The white band on the sides is formed of round groups of white scales of the same size and form as the other scales on the sides. There is also a triangular white spot at the angles of the mouth.

Hab. South-Eastern Africa (*Dr. Kirk*).

Feb. 23, 1864.—John Gould, Esq., F.R.S., in the Chair.

NOTICE OF A NEW SPECIES OF ZORILLA.

BY DR. J. E. GRAY, F.R.S., ETC.

The British Museum, rather more than ten years ago, purchased of Mr. Argent the skin of a *Zorilla*, which differs from any others which I have seen. Unfortunately it was without any habitat, and I have been waiting in hopes of a second specimen occurring which would supply this deficiency.

It, however, appears so distinct that I think it now better to give a short account of it, that it may be recorded in the systematic catalogues.

ZORILLA ALBINUCHA,

Black ; back with four yellowish-white stripes, the two middle streaks short, the outer extending from the occiput to the base of the tail ; tail yellowish white ; forehead, crown, nape, and upper part of the ears pure white.

Hab. — ?

The hair soft and short ; the white hair of the crown and the yellowish hair of the dorsal stripes one-coloured to the base ; the hair of the tail rigid, more or less blackish at the base.

There are two or three small, black, unsymmetrically placed spots on the crown, and the central black streak of the back is extended a

short way up the centre of the nape. The front claws are short and acute.

It differs from the *Zorilla Vaillantii*, Loche (Rev. et Mag. de Zool. 1856, viii. 497, t. 22), in the crown of the head being entirely white, and the streak on the back narrower and well-defined.

ON THE OSTEOLOGY OF THE KAGU (*RHINOCETUS JUBATUS*).

BY W. K. PARKER.

If we take the terrestrial, amphibious, and aquatic birds as a practical half of the whole class, we shall find that the minor groups into which they break up all fuse into each other at their margins.

If it were not for the fact that the Pigeons, Ardeine birds (e. g. Ibises, Storks, and Herons), and the "Pelecaninæ" have tender young, then a straight line might be drawn through the class, leaving on one side the plunderers, songsters, and other families of the "Aves altrices," and on the other the walking, running, wading, swimming, and diving birds. As it is, however, this interdigitation of the two main halves does not take away the great naturalness of such a subdivision; and the land- and water-birds may be considered as together forming a very natural group.

Certainly these birds have very much in common; and inosculant forms so completely connect together the minor subdivisions as to make one seamless web of these apparently incongruous materials.

This slow but sure melting of family into family, and genus into genus, this mixing of single types so as to form double, triple, and multiple types, makes the ancestral hypothesis very hard to digest, whilst yet it seems to be the only one at hand having any scientific value. It may be an *ignis fatuus*, but, to one perplexed with tracing the mazy labyrinth of types, it looks like a light shining in a dark place.

The *Palamedea* and the Kagu have turned up to me very opportunely just now; they have made me rethink my thoughts, and repeat and vary my observations, on the relationships of the land- and water-groups of birds. The former of these birds—the *Palamedea*—by bringing an essentially Anserine bird so near those outlying "Gallinæ" the Curassow and the Brush-Turkey, shows how it is that there exists so much in common in the skull and face of the Fowl and the Goose; whilst the Kagu, by tying closely together the Trumpeter and the *Eurypyga*, in some degree opens the eyes to understand why the relationship of the Cranes to the Herons, and of both to the Rails, should be so close and intimate.

I have also been brought to re-analyze the families so as to eliminate, if possible, the single or pure from the mixed types, whether merely double or multiple.

Tentatively and cautiously let us separate the true Ralline birds, from the *Notornis* to the Coot; this group may stand as one of the simple-type families.

Parallel with these birds—in some respects more intelligent, in others coming nearer to the reptile—we place the Plovers, not

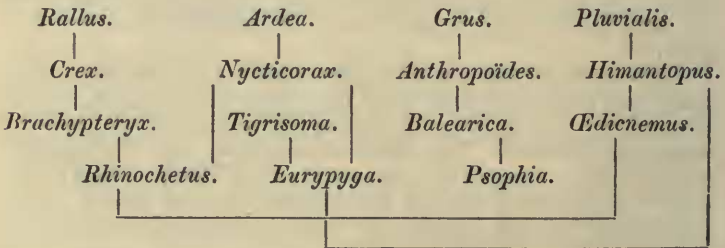
having respect to the length of their bills, but to the degree in which they have retained a certain embryological simplicity of structure, and are thus less typically *ornithic* than their relatives the Gulls, on one hand, and the Ibises, on the other.

The typical Fowls and the typical Geese and Ducks appear to form two more groups of equal value with the Ralline and Pluvialine groups ; but as these two simple types do not bear very directly upon the subject of this present paper, they will be considered on some other occasion.

Any one who has mastered the development of a Rail or a Plover will be in a state of fitness to study the meaning of what he will see in the structure of the Heron and of the Crane.

At present my view of the matter is, that, whilst the Heron has risen considerably higher in the bird-scale than the Crane, yet they are intimately related ; moreover, that the Heron has full two-thirds of the ralline nature in it to one of the pluvialine, and, on the other hand, that the Crane has in it twice as much of the Plover as of the Rail.

In supposing these birds to be thus double in their nature, I do not forget that they have characters peculiar to themselves alone ; *identity-characters* they might be called : we see this everywhere in nature ; and those of us who have large families know well that, whilst each child is in one sense a copy of both parents at once, yet he holds his own, and has so much and such well-marked individualism as to make him in a certain sense like the starting-point of divergence towards a distinct species. I here append a sort of scheme, showing some of the more important relationships of the Kagu, one of the best examples of a multiple type :—



The *Rhinochetus*, the *Psophia*, and the *Eurypyga* are on the same level ; they are intimately related *inter se*, and very closely also to the Cranes and Herons. I am not aware whether, in placing them on the same line, I have truly indicated the *ornithic* height of each. In the upper line it is certainly not so ; yet that is a natural arrangement in one important matter ; for the Heron comes near to the Rail, and the Crane to the Plover, and all are intimately related.

The *Psophia* is the truest Crane in the bottom line, yet its skull is principally ralline in character ; the *Eurypyga* comes nearest to the Heron : as for the Kagu, whether it be most of a Crane, a Night-

Heron, or a Wingless Rail, I will not say; it has a more distant relationship with the Stone-Plover (*Edicnemus*).

The *Psophia* has a very phasianine expression of face, and the structure of its head answers to that look very considerably; whilst the *Eurypyga* has stretched just as far out for some of its characters, and is unmistakably related to the Stilt-Plover (*Himantopus*). It would be tedious if the details were given; but I hold myself ready to prove my assertions. Leaving the beautiful and complex skulls of the *Kagu*, the *Eurypyga*, and the *Psophia* (merely remarking that the first is most like that of a Night-Heron, the second halfway between that of the *Kagu* and the *Himantopus*, and that the third is, as it were, the skull of a phasianine Rail), let us turn to the sternum in these birds.

In each case this bone answers best to that of a newly hatched Crane (e. g. *Grus montignesia*), whilst it is, as yet, totally unossified. The breast-bone of the Trumpeter comes nearest that of the Crowned Crane (*Balearica*); the *Kagu*'s sternum is truest to the embryo Crane; whilst that of the *Eurypyga* answers in nature both to that of the young Crane and the young Heron. The sternum of the true Crane, in its early condition, is very interesting, as, besides its own proper characters, it shows a dying-out of the *pluvialine* inner hyposternal processes. The dorsal vertebræ are largely ankylosed together in these three mixed types—the *Kagu*, *Psophia*, and *Eurypyga*; and this occurs in all the Cranes more or less, and also in that strange Crane-Goose the Flamingo.

The furculum of the *Kagu* is but little stronger, and only a little more U-shaped, than that of the *Brachypteryx*; that of the *Psophia* has its rami more divergent than that of a Crane, and the process at the angle is weaker; and, lastly, the furculum of the *Eurypyga* is intermediate between those of the *Psophia* and the Stilt-Plover.

That which strikes the eye at once in the pelvis of the *Kagu* is the great height and steepness of the iliac crests, and the peculiar bend downwards of the hinder part of the sacrum; this is equally well seen in the pelvis of the *Brachypteryx* and the *Psophia*.

This has a further interest; for that which gives character to the pelvis of the *Talegalla*, as compared with that of other gallinaceous birds, is this peculiar height of the iliac crests.

In the *Eurypyga* this character is not only toned down, as it were, but the posterior part of the pelvis is much broader: and this part of the bird alone would only indicate a *specific* difference from that peculiar Ibis-like Stork the *Umbretta*; for its pelvis differs but little from that of the *Eurypyga*, save in being stronger, and it answers to that common broad kind so constantly seen in every modification of an essentially pluvialine bird.

My last remark is, that all the outliers of the typical "Ardeinæ"—*Balaeniceps*, *Scopus*, *Eurypyga*, *Rhinocetus*, and the Storks—take hands round the well-defined central group, viz. the Herons, Bitterns, Egrets, Night-Herons, Tiger-Bitterns, and Boat-bill.

DESCRIPTION OF A NEW SPECIES OF CHRYSOCOCCYX.

BY JOHN GOULD, F.R.S., ETC.

CHRYSOCOCCYX SCHOMBURGKI, Gould.

Crown of the head, neck, back, and scapularies rich shining coppery bluish green; wing-coverts bright shining green, margined with a coppery hue; first three primaries dark bluish black, with a stripe of white down the central part of their inner webs; the remainder of the primaries bluish green on their outer webs, with a tinge of copper on their margins, the inner webs bluish black with a broad stripe of white along their basal margin; tail-feathers deep bluish green, with a tinge of copper on their margins, and the outer feathers on each side crossed by three irregular bands of white, and with an oval spot of white at the tip; throat, under surface of the body, and under wing-coverts alternately banded with pure white and bronzy green; under tail-coverts beautiful grass-green, those nearest the body largely tipped with white; bill orange, tipped with black; tarsi and feet olive.

Total length $6\frac{1}{2}$ inches, bill $\frac{7}{8}$, wing $4\frac{1}{2}$, tail $3\frac{1}{4}$, tarsi $\frac{1}{2}$.

Hab. Siam.

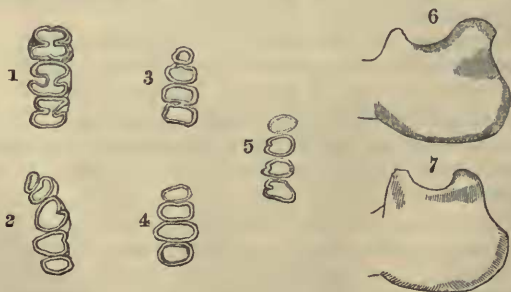
Remark. This very beautiful species is nearly allied to the *Chrysococcyx Hodgsoni* of Moore (*C. smaragdineus*, Blyth) and *C. xanthorhynchus* of Horsfield. It was sent to me from Siam by Sir Robert Schomburgk, Her Britannic Majesty's Consul-General for that country; and I have named it in honour of one whose devotion to natural science is well known, and to whose merits in this respect I have had the pleasure of bearing testimony upon several previous occasions.

March 8, 1864.—Dr. J. E. Gray, F.R.S., in the Chair.

NOTES ON THE SPECIES OF SAND-MOLES (GEORYCHUS).

BY DR. J. E. GRAY, F.R.S., ETC.

Dr. Sc Slater having requested me to determine two Sand-Moles (*Georychus*) brought home by Capt. Speke, I have been induced to re-examine all the specimens of the genus in the British Museum.



The species may be divided into two groups according to their fur. Thus the fur of *G. capensis*, *G. albifrons*, and *G. unicolor* is very similar, being soft, long, and fluffy; while the fur of *G. cæcutiens*,

G. damarensis, and *G. holosericeus* is also much alike, but differs from the fur of the other species in being shorter, rather more rigid, apparently closer.

The genus may be divided into four groups by the form of the grinders, thus:—

A. Grinders $\frac{3-3}{3-3}$. The crown of the upper and lower grinders nearly square, with a fold or groove on the inner and outer edges.
GEORYCHUS. (Fig. 1.)

1. GEORYCHUS CAPENSIS, Gray, Cat. B.M. p. 148; see Waterhouse, Ann. N. H. viii. t. 2. f. 2.

The perforation on the side of the skull in front of the orbit oblong, subtrigonal, almost as wide as high; forehead with a slight wing-like expansion over the front of the orbit; the hinder wing of the lower jaw longer than high, with a slightly rounded outline beneath. (Fig. 6.)

Hab. Cape of Good Hope.

2. GEORYCHUS ALBIFRONS, n. s.

Fur ashy grey, with a large white spot on the forehead.

Hab. E. Africa (*Capt. Speke*).

This species is very like *G. capensis*, both in the colouring of the fur and in the form of the grinders, but is not more than one-third the size, and it has a large white spot on the forehead, and no white on the cheeks. There is the same difference in the size of the skull; and the teeth are more worn, showing that it is as old. The brain-box of the skull is much more ventricose. The teeth have a distinct fold on the inner side, but scarcely so on the outer; but then they are much worn. The expansion on the hinder part of the lower jaw is nearly of the same form as that of *G. capensis*.

Dr. Peters, in his 'Nat. Reise nach Mossambique,' t. 35. f. 3, gives a figure of the top of what he believes to be a young specimen of *Bathyergus cæcutiens*. It is something like the skull of this species; but it may be the skull of the species to which Dr. Peters refers it, for unfortunately the teeth, which would determine the question, are not figured.

B. Grinders $\frac{4-4}{4-4}$. Crown of the front upper small, oblong, transverse, simple; of second, third, and fourth subtrigonal, with a distinct fold or groove on the broader inner side; the second tooth the smallest: the first lower oblong, small; the second square; the third trigonal, the hinder side the smallest, with a subtrifoliate crown. The hinder wing of the lower jaw broad, nearly as high as wide, with a strongly arched outline below.
HELIOPHOBIUS, Peters. (Figs. 2 & 7.)

3. GEORYCHUS PALLIDUS. (Teeth, fig. 2; jaw, fig. 7.)

Rufous grey; side of face, chin, and beneath paler yellow-grey.

Hab. E. Africa (*Capt. Speke*).

I have very little doubt that this is the animal figured by Dr. Peters (Reise nach Mossambique, t. 31) under the name of *Bathyergus argenteo-cinereus*, and of which the skull is that figured as *Heliophobius argenteo-cinereus* (t. 35. f. 2), and described under the latter name in the 'Bericht,' 1846, p. 159; but he specially describes it as having six grinders in each jaw, where we have only four. I think that must have been an anomaly in his specimen; indeed the figure does not show six well-formed teeth.

Dr. Peters describes, and his figure represents, the fur as of a uniform colour. Our specimen is paler on the cheeks and underpart of the body.

C. Grinders $\frac{4-4}{4-4}$, all nearly similar and of nearly equal size, the hinder being only slightly the smallest. The crown of the upper ones is oblong, rounded, and with a central fold on the outer side. The crown of the lower with a fold in the middle of each side, the outer fold of the last one being almost, if not quite, obsolete on the outer side. The wing of the hinder part of the lower jaw longer than high, with a nearly straight lower edge.
CRYPTOMYS. (Figs. 3 & 6.)

4. GEORYCHUS HOLOSERICUS, Wagner.

Hab. S. Africa.

D. Grinders $\frac{4-4}{4-4}$. The upper grinders oblong, transverse, wider than long, the front the largest; the hinder very small, nearly circular. The lower grinders oblong, much wider than long; the three front subequal; the hinder smaller, nearly circular. The posterior wing of the lower jaw longer than high, with a nearly straight lower margin. CÆTOMYS. (Figs. 4 & 6.)

5. GEORYCHUS CÆCUTIENS, Gray, Cat. Mam. B.M. 149. (Teeth, fig. 4.)

Bathyergus cæcutiens, Licht.

? *B. Hotentottus*, Lesson.

? *B. Ludwigii*, A. Smith.

Fur short, close, uniform grey-brown; the perforation in the side of the nose, in front of the orbit, large, oblong, erect.

Hab. Natal.

6. GEORYCHUS DAMARENSIS, Gray, Cat. Mamm. B. M. 149. (Teeth, fig. 5.)

Bathyergus damarensis, Ogilby, P. Z. S.

Fur short, uniform grey-brown, with a large white spot on the back of the head.

Hab. Damara-land.

This animal greatly resembles the preceding, but is larger, and has the white spot on the back of the head. The imperfect skull (with

part of the teeth) in the Museum resembles the skull of the preceding in most particulars, but is rather larger in size, and the perforation in the side of the nose, at the front edge of the orbit, is smaller and not so oblong, being only a little higher than wide.

ADDITIONAL OBSERVATIONS ON *DERMATEMYS*, A GENUS OF
EMYDIDÆ FROM CENTRAL AMERICA. BY DR. J. E. GRAY,
F.R.S., ETC.

In the 'Proceedings of the Zoological Society' for 1847, p. 53, I described a new genus of *Emydidæ*, under the name of *Dermatemys Mawii*; and in the 'Catalogue of Shield Reptiles in the British Museum' I figured the shell of the animal in detail.

This genus was only established on a single shell, without any part of the animal attached to it, which was then in the Museum of this Society, having been presented by Lieut. Mawe, R.N. This specimen has since been transferred to the collection of the British Museum.

Some doubts have been expressed as to the position of the genus in the family *Emydidæ*; and one naturalist has even gone so far as to doubt the propriety of establishing a genus from the examination of the single specimen, which he was inclined to believe was only an abnormal form of a typical *Emys*. This I could not admit; for, even if it were an accidental monstrosity, we did not know an *Emys* to which it could be referred.

M. Bibron, when in England, named the specimen, in the MS. Catalogue of the Zoological Society, *Emys Mawii*, a name which I adopted when I originally described it.

More lately the Museum at Paris appears to have received a specimen with the animal, for I find it shortly noticed in M. A. Duméril's 'Catalogue of the Paris Museum' under the name of *Emys Berrardi*, with the following account of the animal:—"Head uniform brown, flat, broad, rather large; jaws toothed; toes broadly webbed; tail strong, rather long." It was sent from M. Berrard from Vera Cruz. *Emys Berrardi* is also described and figured by A. Duméril in the sixth volume of the 'Archives du Muséum,' p. 231, t. 15.

It is to be observed that in the short notice of the species in the 'Catalogue of the Paris Museum' the series of large shields on the external symphysis, which is a peculiarity of *Dermatemys Mawii*, is not mentioned; and they are to be looked for in vain in the longer description in the 'Archives du Muséum,' or in the plate which accompanies that paper. Yet there can be no doubt that both the descriptions and figure are intended for the animal under discussion, as M. Duméril admits that they received one specimen from Lieut. Mawe (or "Maw," as it is printed), which no doubt they obtained from the Zoological Society when M. Bibron was in London. However, the figure is more beautiful as a work of art than accurate as a natural-history drawing; but then herpetologists must by this time

have become accustomed to M. Auguste Duméril's want of attention to such details.

Professor Agassiz, probably deceived by these inaccuracies, observed:—" *E. Berrardi* seems to belong to the genus *Ptychemys*, judging from the description and figure of the jaws." (Contrib. p. 432.)

In Mr. Salvin's collection there is a specimen of this Tortoise, with the animal; but, unfortunately, the specimen is not well preserved: it seems to have been allowed to get dry from evaporation of the spirit, and then to have been placed in spirit again. However, it is in a sufficiently good condition to allow of a description of the more prominent characters of the animal; and it shows that the peculiar disposition of the sternal plate, on which the genus was described (though overlooked by M. Duméril), belongs to the normal characters of the animal. The head is rather large, flat above, and covered with a soft, thin, continuous skin; the nose shelving upward, conical; nostril terminal; mouth inferior, considerably behind the end of the nose; beak horny, rather sinuated at the sides; chin not bearded; the limbs strong, well developed; the legs covered with small scales; the front of the fore legs with numerous, unequal, very slender, band-like cross shields; feet large, broad; the toes very long, rather slender, with a wide web to the base of the claws; the outer edge of the fore leg and foot, and the hinder edge of the hind leg and foot, with a broad thin fringe, covered with large smooth plates; the claws 4—5, elongated, acute; tail short, thick, angular, the upper surface flat, granular, with a ridge on each side of the base converging towards the centre, where the ridges unite and form a single central ridge of granules to the horny tip of the tail.

This genus has all the characters of the more typical aquatic Terrapins. The feet are broad, the toes elongated and well webbed; and the alveolar edges of the jaws, according to the figure of M. A. Duméril (*l. c. t. 15*), have distinct dentated ridges, like the genera *Pseudemys* and *Batagur*. M. Duméril's figure seems to have been taken from a badly preserved stuffed specimen. There is a second specimen of this very interesting Terrapin now alive in the Zoological Gardens.

In my description of the genus I have described the axillary and inguinal plates as absent. In Mr. Salvin's specimen they are very small, but yet distinctly present, but are more developed on one side than on the other, showing that they are variable in this animal.

DESCRIPTION OF THE NEW LIZARD (*SPATALURA CARTERI*,
GRAY), FROM LIFE*. BY HENRY CARTER, ESQ.

"Noticing that, in your specific description of *Spatalura Carteri* (Annals, vol. xiii. p. 249), you have inserted in a parenthesis the words 'dry from spirits,' I am inclined to think that you would be glad of more information on the colour-markings of this Lizard when

* Extracted from a letter to Dr. J. E. Gray.

fresh, which the following extract from my MS. Journal, written when the animal was caught, will, I hope, afford:—

“Ground cinereous, six pairs of white spots between the back of the head and root of the tail, symmetrically placed; six to eight lines of red spots on each side, broken and terminating in small points towards the belly; buff-coloured irregular spots on the sides among the red lines; belly bright yellow, passing into cinereous towards the roots of the posterior and anterior extremities; legs and tail spotted with red towards their proximal ends, with white spots towards their extremities; head irregularly marked with red and white spots having a transverse direction. Iris light cinereous, tympanum sunken and covered with loose skin.”

“This is a homely description, but I give it to you *verbatim* as it is in my Journal, and am sorry that I had not the latter to refer to in London when I left you the specimen.

“Lastly, I notice, p. 250, in the fifth paragraph from the top, *l. c.*, that an error has crept into my statement, in the word ‘Anthrophagi,’ which ought to have been ‘Chelonophagi’ (Turtle-eaters). It will not do to make mistakes of this kind; and these poor people, degraded as they are, I trust will never come to this.”

MISCELLANEOUS.

The Gare-Fowl, or Great Auk (Alca impennis).

To the Editors of the Annals of Natural History.

GENTLEMEN,—The September Number of your valuable Journal contains a list, communicated by Mr. Robert Champley, of the specimens of *Alca impennis* preserved in the various museums. To render this list more complete, I beg to inform you that a specimen of this rare bird is also contained in the Imperial Museum of Vienna.

Requesting the insertion of this note in your pages,

I remain, respectfully yours,

A. VON PELZELN,

Assistant Keeper in the Imperial
Zoological Museum.

Vienna, Oct. 3, 1864.

[We omitted to remark, on publishing Mr. Champley's list of specimens of this species in our September Number (p. 235), that it seems to be very defective. Mr. Alfred Newton, in his communication to the Zoological Society, reprinted in our August Number (p. 140), states that “sixty-three or sixty-four stuffed skins” (*more than double the estimate* of Mr. Champley) are known by him to exist. Again, in the Appendix to Mr. S. Baring-Gould's ‘Iceland’ (p. 406), which was noticed in our pages (*Annals*, vol. xii. p. 396), Mr. Newton says he can enumerate fifty-nine eggs of this bird, adding, “there must be several besides, of which I have as yet no knowledge.”—EDS.]